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(54) Tape providing supply of doubly adhesively faced pads

(57) A tape (8) provides a supply of doubly adhesively faced pads (32, 32) for individual application to a receiving surface. The tape comprises a generally elongate flexible base layer (34) of material having one side with a first release surface (38), and the plurality of pads of material (32, 32) are carried on the first release surface of the base layer arranged in succession along the length of the base layer. Each of the pads has first (44) and second (42) tacky faces facing in opposite directions and has the first of its tacky faces releasably adhered to the first release surface of the base layer. The base layer of material has a second side facing oppositely to the first side and has a second release surface (40), so that the base layer may be rolled up (30) to bring the second release surface thereof into engagement with the second tacky faces of the pads.

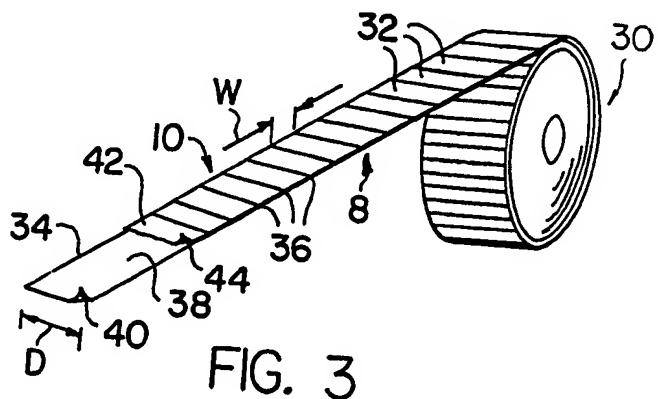
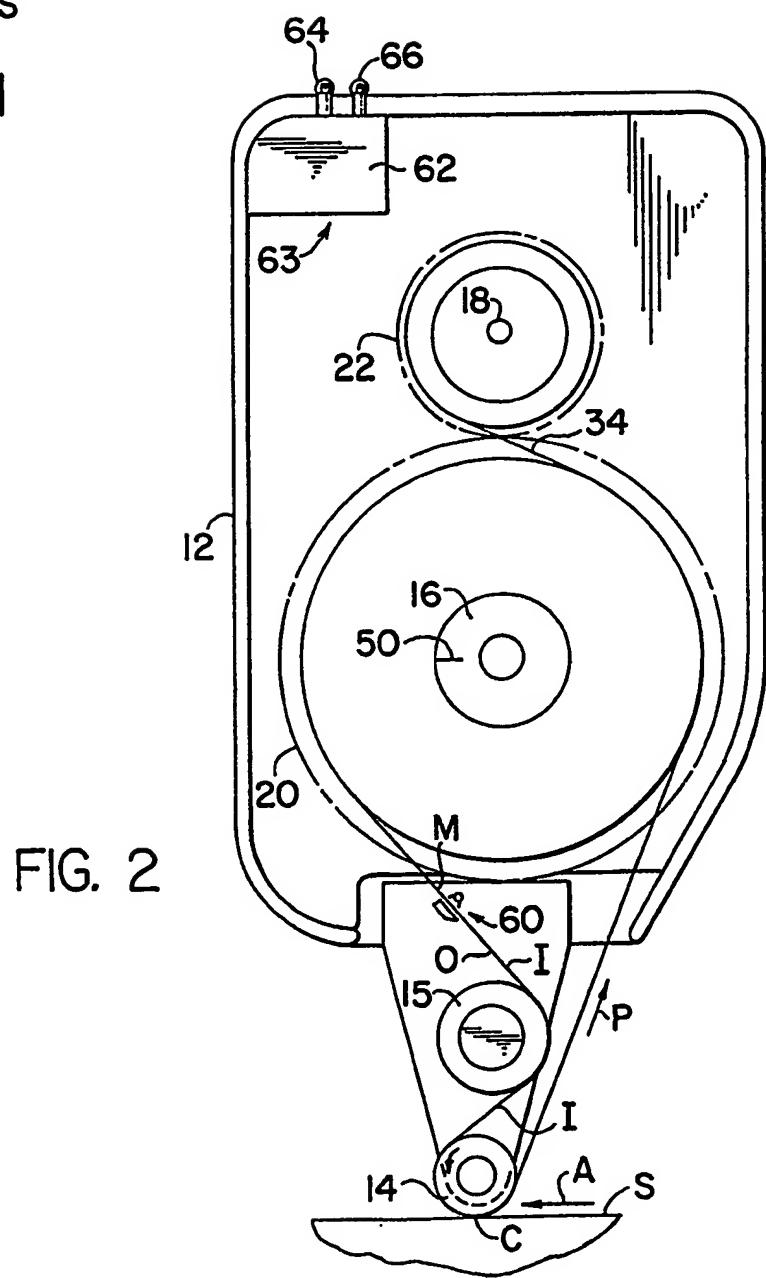
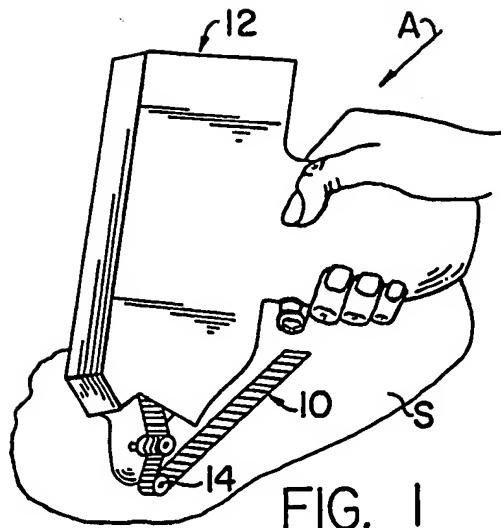


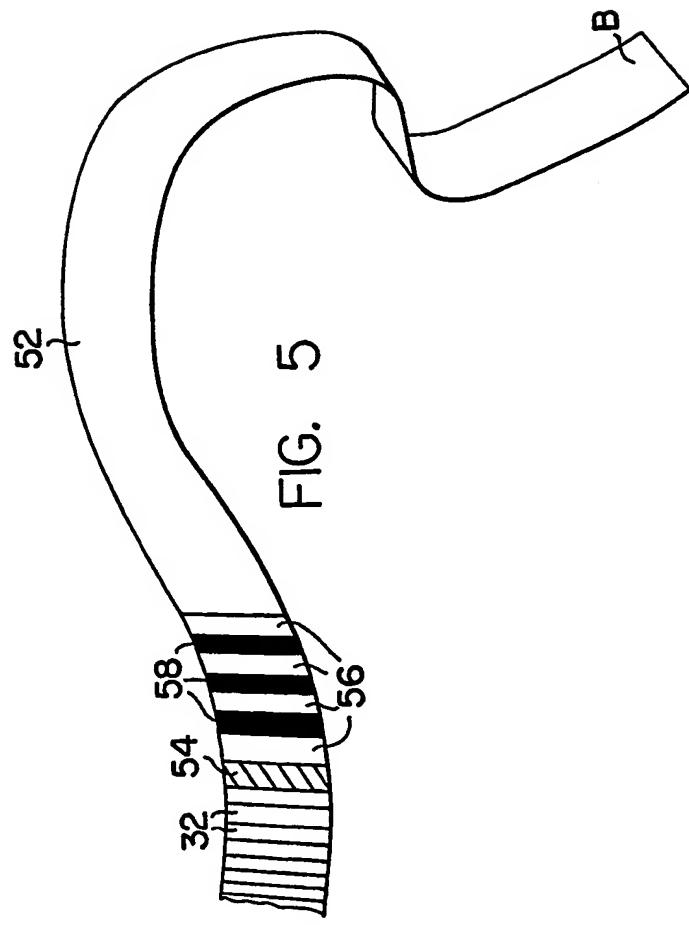
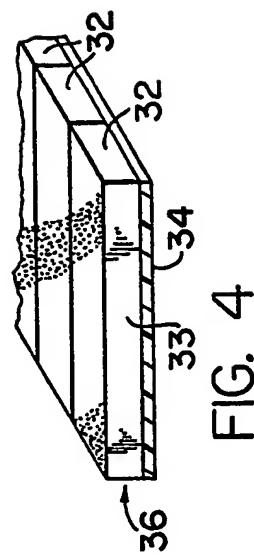
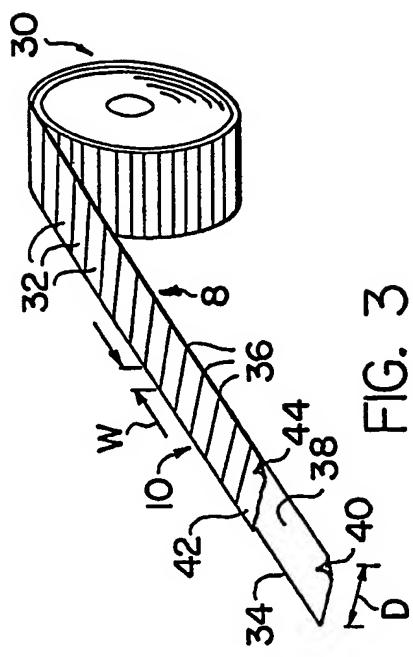
FIG. 3

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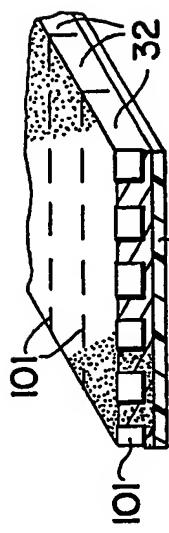


FIG. 8

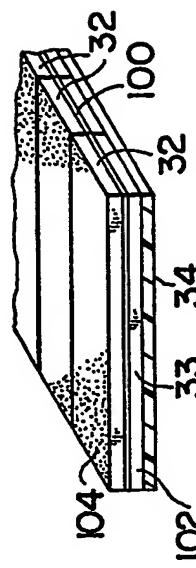


FIG. 9

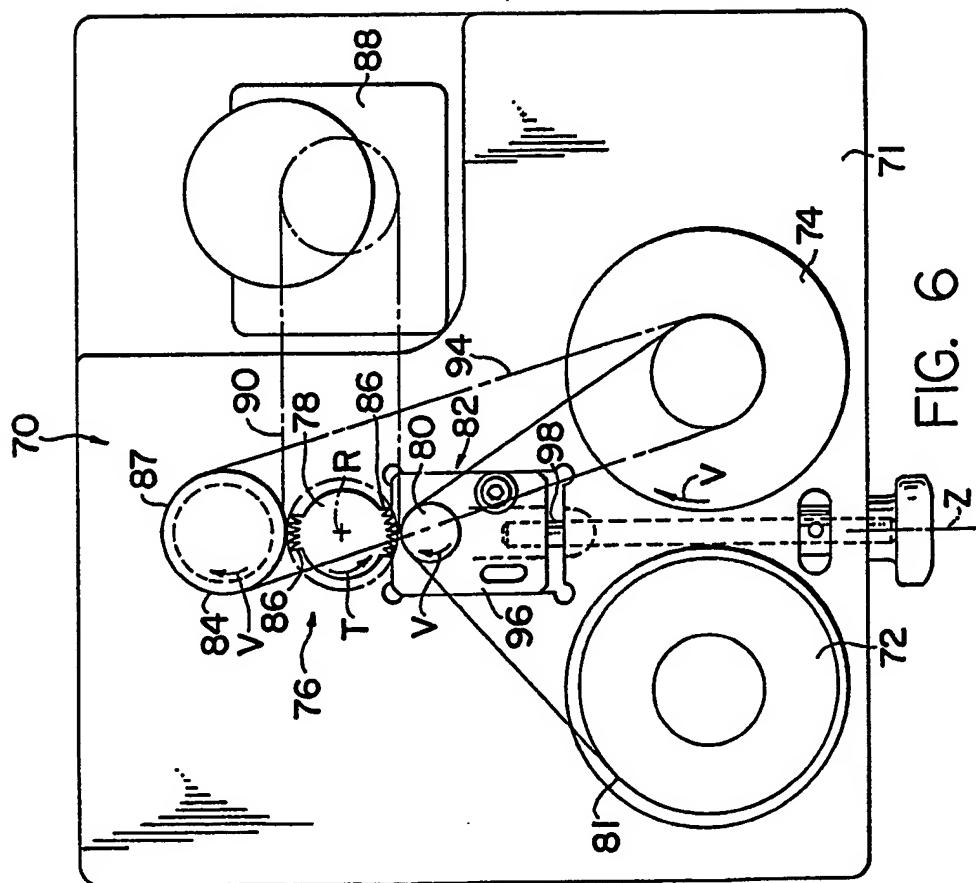
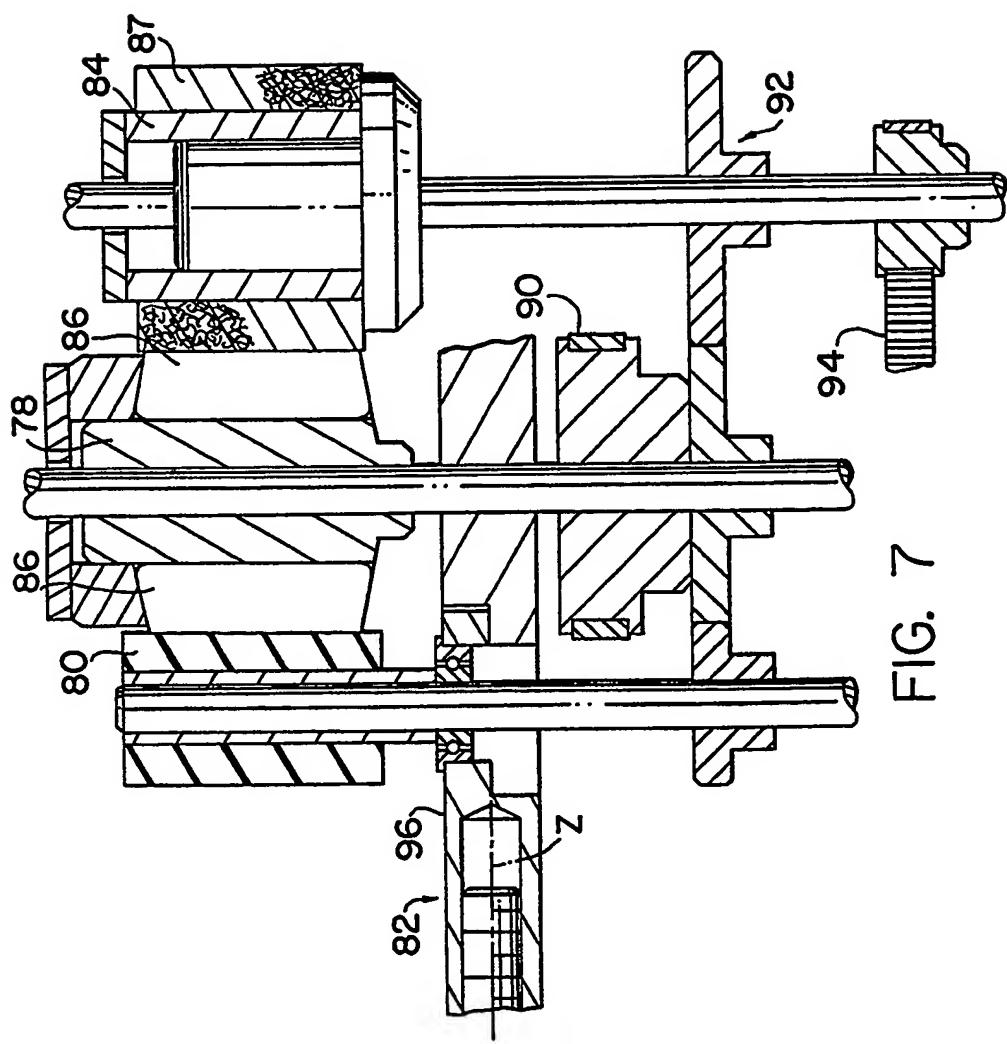


FIG. 6



READILY TRANSFERABLE ADHERENT TAPE AND  
METHODS OF USE AND MAKING

BACKGROUND OF THE INVENTION

The present invention resides in a double-sided adhesive and deals more particularly with an improvement in double-sided adhesive tape wherein the adhesive material is comprised of a multiplicity of pads which are readily transferrable onto a substrate or receiving surface without need of tearing the tape to effect its separation from the receiving surface.

Double-sided adhesive tape is widely used in a variety of applications, such as in mounting, laminating, or simply joining two confronting surfaces with one another. In such applications, these tapes often are comprised of two oppositely facing tacky surfaces separated from one another by the thickness of the material which constitutes it. Today, due to improvements in the adhesive technology, this thickness can be made extremely thin, for example on the order of one or two mils, without sacrificing significant adhesive capabilities. However, despite such thinness, these adhesive tapes are nevertheless relatively strong in tension. Hitherto, this tensile strength created problems when it came to detaching the applied portion of the continuous adhesive from that which had not. For example, it had been the practice to apply a continuous length of double-sided adhesive to a substrate surface using an

applicator and to cause the tape remaining in the applicator to be separated from that which was applied to the surface by pulling the applicator away from this surface thus severing the adhesive along a line of tear. The force required to effect such separation often caused the substrate material, such as paper, to crumple, deform or possibly even rip. Furthermore, the line of tear along which the adhesive was separated was jagged and nonuniform. The jagged adhesive edges which remained on the substrate were undesirable in many applications since they did not define a clean adhesive break.

Accordingly it is an object of the present invention to provide a tape carrying double-sided adhesive material which is capable of being readily transferred to a substrate surface in quantities thereby avoiding the need to pull the tape apart in order to detach the applied adhesive from that which remains in supply; and/or to provide an adhesive material of the aforementioned type wherein the adhesive material is applied onto a substrate surface without resulting in a jagged edge being formed at its separation point; and/or to provide a delivery system for readily applying quantities of adhesive material to a substrate surface without tearing a continuous length of adhesive; and/or

to provide a method and a related apparatus for conditioning a continuous length of double-sided adhesive material such that the length of material is cut transversely of its length to define a multiplicity of adhesive pads which can be separated from one another such that only a selective number of such pads may be applied to a substrate surface for a given application; and/or to provide a base layer which carries quantities of adhesive material in roll form within an applicator capable of advancing the quantities of adhesive consecutively into engagement with a surface by moving the applicator and the surface relative to one another such that when such motion is stopped the adhesive quantity immediately in contact with the substrate surface is readily released from the base layer which carries it; and/or to provide improvements generally.

#### SUMMARY OF THE INVENTION

A tape provides a supply of doubly adhesively faced pads for individual application to a receiving surface. The tape comprises a generally elongate flexible base layer of material having one side with a first release surface, and a plurality of pads of material carried on the first release surface of the base layer arranged in succession along the length of the base layer. Each of the pads has first and second tacky faces facing

in opposite directions and has the first of its tacky faces releasably adhered to the first release surface of the base layer. The base layer of material has a second side facing oppositely to the first side and has a second release surface, so that the base layer may be rolled up to bring the second release surface thereof into engagement with the second tacky faces of the pads, the adherence between the second release surface and the second faces of the pads being less than the adherence between the first release surface and the first faces of the pads so that as the base layer is unrolled the pads release from the second release surface and remain adhered to the first release surface.

The invention further resides in a method wherein a continuous length of double-sided adhesive bonded to an underlying base layer is conditioned by causing a series of transversely extending cuts to be formed in the adhesive material so as to define the plurality of adhesive pads carried by the base layer. In the process of forming these pads, a barrier layer is simultaneously created along the side edges thereof thus preventing the pads from adhering to one another after being formed.

Other objects and advantages of the present invention will become apparent from the following disclosure and appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view of the adhesive material which embodies the present invention being applied onto a substrate surface.

Fig. 2 is a sectional view taken through an applicator for dispensing the adhesive material onto a substrate surface.

Fig. 3 is a perspective view of a roll of adhesive tape which embodies the invention shown in its partially unravelled condition.

Fig. 4 is an enlarged partially fragmentary perspective view of the side edge of a pad showing the boundary layer disposed thereon.

Fig. 5 shows a trailer piece having indicia means attached to the trailing end of the tape shown in Fig. 4.

Fig. 6 is a top plan view illustrating of an apparatus for preconditioning double-sided tape in accordance with one aspect of the invention.

Fig. 7 is a partially fragmented side elevation view of the apparatus shown in Fig. 6.

Fig. 8 shows an alternate embodiment of the pad shown in Fig. 4 wherein the pad is defined by a transverse perforation.

Fig. 9 is an alternate embodiment of the pad shown in Fig. 4 showing it in an enlarged partially

fragmentary perspective view.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

In Fig. 1, an adhesive embodying the invention is illustrated at 10 and is shown in the process of being applied to a receiving or substrate surface S by an applicator 12. The applicator 12 may be any one of a number of commercially available applicators adapted for applying adhesive tape to a surface, such as a SCOTCH Brand Model 752 ATG available from the 3M Company. The applicator 12 which is shown in the exemplary embodiment of Fig. 1 includes a handle which is capable of being easily gripped by a user and a contact roller 14 disposed outwardly thereof for precisely applying the adhesive 10 in a given orientation on the substrate S. Although shown in Fig. 1 as being applied by manual manipulation of the applicator 12, the adhesive 10 may in other applications be delivered to the surface S in a variety of different ways, including a mechanically actuated system.

As illustrated in Fig. 2, the applicator 12 includes a delivery means comprising a supply reel 16 and a take-up reel 18 mechanically coupled to one another through the intermediary of gears 20 and 22 associated respectively with each of the supply and the take-up reels. The supply reel 16 contains a supply of adhesive tape in roll form which is caused to travel tangentially away from the supply reel 16 disposing the adhesive

material along side O of its path of travel P. The adhesive and its carrier engage on an idler roller 15 such that the adhesive part of the tape is directed outwardly when supported on the contact roller 14 and the take-up reel rolls the carrier on itself after its engagement with the contact roller 14. The idler roller 15 has a series of circumferentially disposed grooves formed radially inwardly of it thereby reducing its contact surface with the adhesive, consequently preventing the adhesive from being prematurely peeled away from the carrying media. As will hereinafter become apparent, the delivery means delivers the adhesive to the surface S by induced relative movement therebetween accomplished through the intermediary of the contact roller 14.

In accordance with the invention, Fig. 3 shows the adhesive 10 of Fig. 1 in its undeployed condition in which it constitutes one layer of a tape indicated generally as 8. The tape 8 is further comprised of a base layer 34 which functions as the carrier for the adhesive moving it through the applicator in a manner heretofore discussed. A multiplicity of pads of material 32,32 comprise the adhesive 10 and are arranged in succession on one surface of the base layer 34. Each of the pads 32,32 has two side edges 36,36 in substantially abutting relationship to the adjacent side edges of its two neighboring pads. As will hereinafter become apparent with reference

to the method of making the tape 8 and as shown more particularly in Fig. 4, the side edges 36,36 of each pad 32,32 include a barrier layer 33,33 which tends to prevent the neighboring side edges from adhering to one another.

The base layer 34 is a generally elongate thin flexible length of material which includes a first release surface 38 disposed on the one side facing the pads 32,32 and includes a second release surface 40 disposed on the other oppositely facing side. Each pad includes a first tacky face 44 facing towards and releasably bonded with the first release surface 38 of the base layer 34 and a second tacky face 42 facing outwardly and away from the base layer 34. As illustrated, the second release surface 40 allows the base layer 34 to be rolled up to bring the second release surface thereof into engagement with the second tacky faces 42,42 of the pads so that the tape 8 may be releasably held in roll form by the exposed tacky faces 42,42 of the pads 32,32 to create the supply roll 30 which is eventually contained in the receptacle portion of the applicator 12. It is herein noted that the adherence between the second release surface 40 and the second tacky faces 42,42 of the pads 32,32 is less than the adherence between the first release surface 38 and the first tacky faces 44,44 of the pads so that as the base layer 34 is unrolled, the pads release from the second release surface 40 and remain adhered to the first release surface.

In the illustrated example of Fig. 2, motion is imparted to the tape when the roller 14 is moved into engagement with the surface S and rotated as a result of the applicator being moved in the indicated direction A. To effect this, the contact roller 14 is formed from a frictional material, such as rubber, and the base layer 34 is sized relative to it along its dimension indicated as D extending transversely of its length such that this dimension is somewhat less than the length of the contact roller 14 thus allowing a portion of the frictional surface of this roller to be exposed to the surface S for driving engagement with it.

The surface S has a texture which more aggressively adheres to the second tacky face 42,42 of each pad 32,32 than does its associated first tacky adhesive face 44,44 adhere to the first release surface 38. Consequently, this causes each pad which is advanced into contact with the surface S to be readily peeled away from the release surface 38 with continued rotation of the contact roller 14. Delivery of the pads in this manner is further prompted by their being formed with a width W so sized that for a given rotation of the contact roller 14, a side edge 36,36 is disposed at or generally proximate to the contact point C between the roller 14 and the substrate surface S. This allows the pad instantly being applied to be separated from those which remain on the

base layer along its trailing edge 36. Thus, the problems hitherto associated with reference to separating a continuous adhesive tape by pulling it apart are overcome by the present invention.

Table A-1 below lists for purposes of illustration, characteristics of the tape 8.

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TABLE A-1

<u>THICKNESS</u>	<u>ADHESIVE TYPE</u>	<u>ADHESIVE MATERIAL</u>
0.002"- 0.005"	PRESSURE SENSITIVE	ACRYLIC (throughout)
<u>ADHERENT STRIP WIDTH (W)</u>	<u>BASE LAYER WIDTH (D)</u>	
0.25" (approx.)	0.5" - 0.75"	

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In Fig. 5, a trailer piece shown generally as 52 is provided such that it is connected to the trailing end of the tape 8. The trailer piece 52 is connected to the tape 8 at attachment point 54 by a suitable means, such as adhesive, and has another opposite free end B suitably sized to be received within a slot 50 formed in the supply reel 16. Located along the trailer piece 52 proximate the attachment point 54 are indicia means comprised of at

least one transparent and one opaque stripe indicated respectively as 56 and 58. These alternating stripes 56 and 58 provide a means by which the end of the tape 8 can be detected. For this purpose, as illustrated in Fig. 2, the invention provides a sensing means 60 within the applicator which cooperates with the indicia means to detect it and ultimately to signal to a user that the supply of adhesive is about to run out. While the sensing means 60 may be any one of a number of different types of sensors capable of detecting indicia, in the preferred embodiment, the means 60 includes a light emitting diode and associated sensor located on opposite sides of the path P followed by the tape 8.

The sensing means 60 is located remotely of the contact point C at the indicated position M distanced along path P from this point by approximately 2" such that when the means 60 first detects the indicia at the location M, there still remains a sufficient number of pads on the base layer 34 between this point and the contact point C to allow the user to finish the present job while nevertheless being aware that the adhesive supply is about to run out. An indicating means 63 may also be provided to notify a user of the status of the adhesive supply. The indicating means 63 includes a conventional circuit 62 which is connected to the sensing means 60 and cooperates with it to controllably activate

an indicator when particular indicia stripes are recognized. For example, when the first alternating stripes are detected, a first indicator light 64 may be energized representing the condition where the last two or so inches of tape is left and when the last alternating stripes are detected, a second indicator light 66 may be energized representing the condition where the supply of adhesive is totally depleted.

In Figs. 6 and 7, a method and related apparatus 70 for creating the multiplicity of pads 32,32 is shown. This method includes providing a supply 81 of commercially available double-sided adhesive tape having a carrier backing thereon and subsequently conditioning it whereby the end result of this process is the formation of the multiplicity of readily transferrable pads releasably held on the carrier. While a variety of commercially available tapes may be employed for this purpose, an example of a suitable tape is one made by 3M Corporation and marketed under the tradename SCOTCH ATG.

The apparatus 70 includes a base 71 which rotatably supports a supply reel 72, a take-up reel 74 and a perforation means 76 interposed therebetween. The perforation means 76 includes a cutting wheel 78 rotatable about its center R and an adjacently disposed rotating anvil 80 which is adjustably located relative to the cutting wheel 78 by an adjustment means 82 cooperatively

mounted to the base 71. The cutting wheel 78 further includes a plurality of dovetail slots disposed circumferentially about it receiving the correspondingly shaped and sized base portions of a plurality of blades 86,86 which extend radially outwardly therefrom about the center R. The apparatus 70 further includes a lubricating roller 84 drivingly rotatably connected to the cutting wheel 78. The lubricating roller 84 is disposed on the base 71 adjacent the cutting wheel 78 so as to yieldably engage with the end regions of the blades 86,86. For this purpose, the lubricating roller 84 includes an outwardly disposed absorbant sleeve 87 which maintains a reservoir of liquid lubricant therein applied to end regions of the blades 86,86 through rotational engagement therewith. In the preferred embodiment of the invention, the lubricant supplied to the sleeve 87 is silicone and acts to both keep the blades 86,86 from sticking to the adhesive layer as they cut it while also being the material responsible for creating the boundary layers 33,33 on the side edges of each pad.

A drive motor 88 is mounted to the base 71 and is drivingly coupled by a belt 90 to the cutting wheel 78 to rotate it, the lubricating roller 84 and the take-up reel 74 together with one another. The rotating anvil 80, the lubricating roller 84 and the cutting wheel 78 are each drivingly connected with one another through the

intermediary of gearing 92 such that the cutting wheel 78 is rotated in the rotational direction indicated as T, while the roller 84 and the anvil 80 are caused to be rotated oppositely in the indicated V direction. The take-up reel 74 is likewise driven in rotation with the lubricating roller 84 in the V rotational direction by a second belt 94 which rotatably couples it and the lubricating roller 84 to one another.

The cutting wheel 78 is adapted to cut through the adhesive layer while only slightly scoring the base layer which carries it. For this purpose the adjustment means 82 includes a slide 96 which carries the cutting wheel 78 and is mounted to the base 71 for movement along the axis indicated as Z in response to being urged in this manner by an elongate threaded actuator 98 disposed between the slide and the base 71.

In use, the unconditioned tape 81 is drawn from the supply reel 72 into the bite between the rotating anvil 80 and the blades 86,86 with the adhesive surface thereof facing the cutting wheel 78 such that worked on tape is subsequently collected on the take-up reel 74 so as to form a roll similar to that shown in Fig. 3. In advancing the supply tape 81 past the cutting wheel 78, the adhesive layer is transversely cut thus forming the consecutively ordered multiplicity of pads 32,32. In so doing, each blade 86,86 through its engagement with the

lubricating roller 78, carries away lubricant on the end surfaces thereof and through its cutting action, the lubricant is caused to be introduced along the side edges of each pad thereby resulting in the simultaneous formation of the barrier layers 33,33. Because the lubricant penetrates and weakens the adhesive, it aids in weakening any uncut adhesive remaining between adjacent ones of the pads 32,32. While it is preferable to completely cut the adhesive layer, the cutting wheel 78 may only partially cut the adhesive to form weakened separation lines between adjacent pads. As shown in Fig. 8, the separation lines between adjacent ones of the pads 32,32 may take the form of a perforated line defined by a series of transversely extending slits 101,101 or alternatively may be formed by chemically weakening the adhesive along such lines of separation.

While in the preferred embodiment, the adhesive material from which the pads 32,32 are formed is shown in Fig. 4 as a homogeneous adhesive, it is nevertheless possible to alternatively employ a laminate as shown in Fig. 9 for this purpose. The laminate may be comprised of a thin two-sided sheet of carrier material 100 having a first layer of adhesive material 102 bonded to one side thereof and a second layer of adhesive 104 bonded to its other side. By way of example, the carrier material 100 may have a thickness of about three to four mils with the

total thickness of the laminate equally about six to seven mils. Additionally, while the apparatus shown in Figs. 6 and 7 utilizes a cutting wheel to create separable pads, it is nevertheless possible to employ a reciprocating blade cooperating with a tape advancing system driven by a step motor for the purpose of advancing the tape incrementally to the cutting station where a cut or perforation is made in the adhesive layer for each increment advanced.

Accordingly the invention has been described by way of illustration rather by way of limitation.

Claims

1. A tape (8) providing a supply of doubly adhesively faced pads (32,32) for individual application to a receiving surface (S), said tape comprising a generally elongate flexible base layer (34) of material having one side with a first release surface (38), a plurality of pads of material (32,32) carried on said first release surface of said base layer and arranged in succession along the length of said base layer, each of said pads being readily separable from the adjacent ones of said pads, each of said pads having first (44) and second (42) tacky faces facing in opposite directions and having said first of its tacky faces releasably adhered to said first release surface (38) of said base layer, said tape being characterized by said base layer (34) of material having a second side facing oppositely to said first side and having a second release surface (40), so that said base layer may be rolled up to bring said second release surface thereof into engagement with said second tacky faces of said pads, the adherence between said second release surface and said second faces of said pads being less than the adherence between said first release surface and said first faces of said pads so that as said base layer is unrolled said pads release from said second release surface and remain adhered to said first release surface.

2. A tape as defined in claim 1 further characterized in that each of said pads of material is defined by an associated separation line (33,101, Figs. 4,8,9) which extends transversely of the length of the base layer.

3. A tape as defined in claim 1 further characterized in that each of said pads is comprised of a homogeneous film of adhesive material (Fig. 4) having oppositely disposed surfaces respectively defining said first and second tacky faces.

4. A tape as defined in claim 1 further characterized in that each of said pads is comprised of a thin two-sided sheet of carrier material (100) having a first layer of adhesive material (102) bonded to one side thereof and a second layer of adhesive material (104) bonded to the other side thereof (Fig. 9).

5. A tape as defined in claim 1 further characterized by each of said pads being of rectangular shape and having a width dimension (W) extending parallel to the length of said base layer; and said pads being of substantially uniform width.

6. A tape as defined in claim 1 further characterized by said pads having side edges (36,36) extending perpendicularly to the length of said base layer with each pad having its two side edges in substantially abutting relationship to the adjacent side edges of its

two neighboring pads.

7. A tape as defined in claim 6 further characterized in that a barrier layer (33,33) is formed along the side edges of each pad.

8. A tape as defined in claim 2 further characterized in that each associated separation line is defined by a series of transversely extending slits.

9. A tape as defined in claim 3 further characterized in that each associated line is defined by a chemically weakened transversely extending portion of said homogeneous film.

10. A tape as defined in claim 3 further characterized in that each of said pads is defined by two side edges (36,36) disposed in a generally parallel orientation with one another and each of said side edges has a barrier layer (33,33) formed thereon tending to keep neighboring side edges from contacting with one another.

11. A tape as defined in claim 4 further characterized in that each of said pads is defined by two side edges (36,36) disposed in a generally parallel orientation with one another and each of said side edges has a barrier layer (33,33) formed thereon tending to keep neighboring side edges from adhering to one another.

12. A tape as defined in claim 1 further characterized in that said tape has a first end and a second opposite end, an elongate trailer piece (52) having

a first end contiguously attached to said base layer at said second end of said tape and having a second end (B) defining a free end thereof, and wherein said trailer piece includes indicia means (56,58) for indicating to a sensing means the presence of the second end of said tape.

13. A tape as defined in claim 12 further characterized in that said indicia means includes at least one transparent stripe (56) and at least one opaque stripe (58) each extending generally transversely to the length of said tape and being juxtaposed relative to one another.

14. A tape as defined in claim 13 further characterized in that said at least one transparent and one opaque stripe being located generally adjacent the connection (54) between said trailer piece (52) and said second end of said tape, and wherein said trailer piece further includes at least one other opaque and one other transparent stripe located together along said trailer piece and being spaced a given distance therealong from said at least one transparent and one opaque stripes located generally adjacent the connection between the trailer piece and the base layer.

15. A tape as defined in claim 11 further characterized in that said trailer piece being appropriately sized to be secured at its second end to a reel (16) and wound initially thereabout followed by the connected length of tape to form a roll thereon.

16. A method of making a tape having a multiplicity of adherent pads arranged thereon which are readily transferrable to a receiving surfacing comprising the steps: providing a tape (81) comprised of a base layer (34) and a continuous layer of doubly adhesively faced material releasably bonded through one of its adhesive faces to said base layer and presenting an outwardly disposed tacky face, said method being characterized by conditioning said tape by forming a multiplicity of pads (32,32) disposed in succession on the base layer by making sections of the adhesive material separable to define each pad with two side edges in substantially abutting relationship to the adjacent side edges (36,36) of its two neighboring pads, and preventing the neighboring side edges from substantially adhering to one another.

17. A method as defined in claim 21 further characterized by providing an apparatus (70) for conditioning said tape, said apparatus having a means (78) for making separable said sections of said continuous layer of doubly faced adhesive material, and orienting the tacky face of the tape towards the separating means during the conditioning process and causing it to be moved (V) therethrough so as to condition it by such movement such that consecutively ordered ones of said plurality of said pads of material are capable of being readily separated from the base layer at points therealong corresponding to

the location of said side edges.

18. A method as defined in claim 17 further characterized in that said separating means includes a rotating cutting wheel (78) having on one side thereof a rotating anvil (80) and having a lubricating roller (84) positioned on its other opposite side, and disposing the tacky face of said tape towards the cutter wheel and causing said tape to be drawn between said rotating anvil and said cutter wheel such that the tape is conditioned after being drawn therebetween.

19. A method as defined in claim 18 further characterized by providing a series of radially disposed blades (86,86) extending from the center of said cutter wheel and providing a yieldable outwardly disposed absorbant sleeve (87) on said lubricating roller which maintains a reservoir of liquid lubricant therein, applying said lubricant to end regions of the blades by rotating each of said blades into engagement with said lubricating roller and continuing rotating the blades to cut the adhesive layer of said tape to form said multiplicity of pads with barrier means formed thereon.

20. A method as defined in claim 19 further characterized by providing adjustment means (82) between said rotating anvil (80) and said cutting wheel (78) and adjustably setting the spacing therebetween to selectively set the cutting depth of said blades into said adhesive

relative to said base layer.

21. A method as defined in claim 20 further characterized by providing on a first side of said base layer (34) a first release surface which carries said pads (32,32) thereon and providing on a second side of said base layer facing oppositely to said first side a second release surface (40), providing each of said pads with first (44) and second (42) tacky faces facing in opposite directions and having said first of its tacky faces releasably adhered to said first release surface of said base layer, selecting the adherence between said second release surface and said second faces of said pads to be less than the adherence between said first release surface and said first faces of said pads, and rolling up the tape (74) after it is conditioned in said apparatus to bring said second release surface of said base layer into engagement with said second tacky faces of said pads (30).

22. A method (Figs. 1,2) of applying an adhesive to a receiving surface characterized by providing a generally elongate flexible base layer (34) of material having at least one side with a first release surface (38) disposed thereon, providing a plurality of pads (32,32) of material each having first and second tacky faces (44,42) facing in opposite directions, disposing each of said plurality of pads on said base layer such that said first of its tacky faces are releasably adhered to said first

release surface of said base layer and are arranged in succession therealong, providing an applicator (12) having a contact roller (14) disposed outwardly thereof and orienting said tape along a path (P) in the applicator such that the base layer is supported by said contact roller and frictionally engages with it to move the second tacky surfaces of the involved ones of said pads into engagement with a receiving surface (S) by relative rotational movement between the contact roller and the receiving surface.

23. A tape providing a supply of doubly adhesively faced pads for individual application to a receiving surface substantially as described herein with reference to the accompanying drawings.

24. A method of making a tape having a multiplicity of adherent pads arranged thereon which are readily transferrable to a receiving surface substantially as described herein with reference to the accompanying drawings.

25. A method of applying an adhesive to a receiving surface substantially as described herein with reference to Figs. 1 and 2 of the accompanying drawings.

26. A tape providing a supply of doubly adhesive faced pads for individual application to a receiving surface.

27. A method of making a tape having a multiplicity of adherent pads arranged thereon which are readily transferrable to a receiving surface.
28. A method of applying an adhesive to a receiving surface.

Amendments to the claims  
have been filed as follows

17. A method as defined in claim 16 further characterized by providing an apparatus (70) for conditioning said tape, said apparatus having a means (78) for making separable said sections of said continuous layer of doubly faced adhesive material, and orienting the tacky face of the tape towards the separating means during the conditioning process and causing it to be moved (V) therethrough so as to condition it by such movement such that consecutively ordered ones of said plurality of said pads of material are capable of being readily separated from the base layer at points therealong corresponding to the location of said side edges.

Examiner's report to the Comptroller under  
Section 17 (The Search Report)

Application number

9207248.7

## Relevant Technical fields

(i) UK CI (Edition K ) B5N

Search Examiner

(ii) Int CL (Edition 5 ) B32B

P N DAVEY

## Databases (see over)

(i) UK Patent Office

Date of Search

(ii) ONLINE DATABASES: WPI

24 JUNE 1992

## Documents considered relevant following a search in respect of claims

1-15, 23

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
	NONE	

Category	Identity of document and relevant passages	Relevant to claim(s)

**Categories of documents**

**X:** Document indicating lack of novelty or of inventive step.

**Y:** Document indicating lack of inventive step if combined with one or more other documents of the same category.

**A:** Document indicating technological background and/or state of the art.

**P:** Document published on or after the declared priority date but before the filing date of the present application.

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